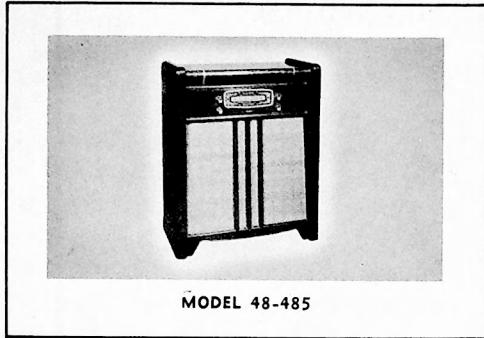


PHILCO RADIO MODEL 48-485



MODEL 48-485

SPECIFICATIONS

CABINET Wood, mahogany
 CIRCUIT Six-tube superheterodyne
 FREQUENCY RANGE ... 540—1620 kc.
 INTERMEDIATE
 FREQUENCY 455 kc.
 AUDIO OUTPUT 2.5 watts
 OPERATING VOLTAGE... 105—120 volts, 60 cycles,
 a.c.
 POWER CONSUMPTION. 40 watts
 AERIAL Built-in low-impedance
 loop; provisions for external aerial.
 PHILCO TUBES (6) ... 14AF7, 7B7(2), 7C6,
 35L6GT, 50X6

TP-4525

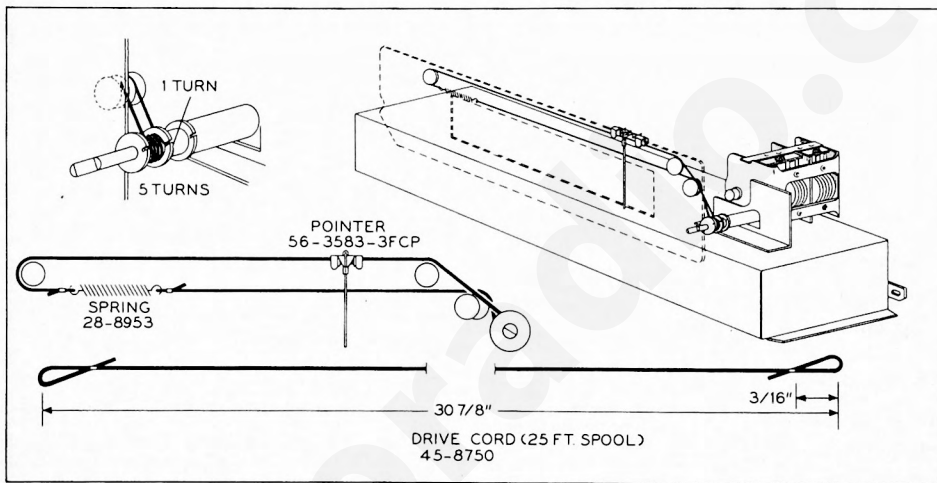


Figure 1. Drive-Cord Installation Details

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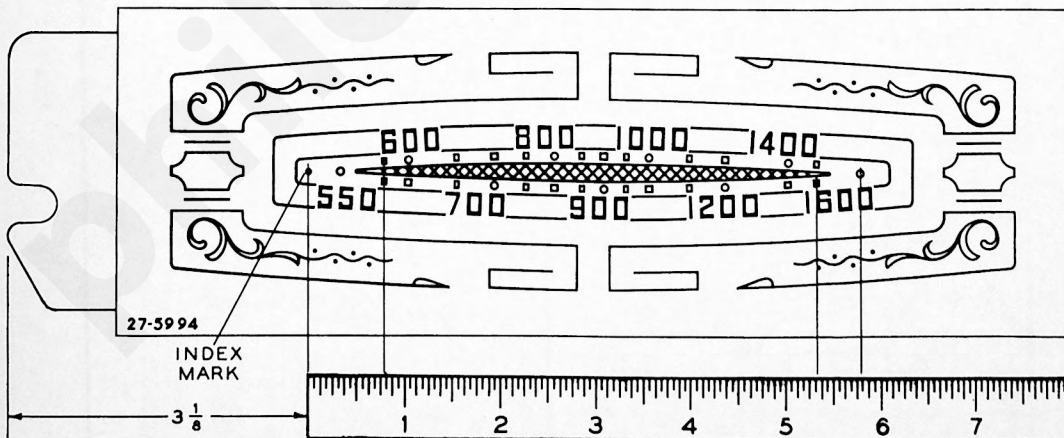


Figure 2. Calibration Measurements for Dial Backplate

TP-5107

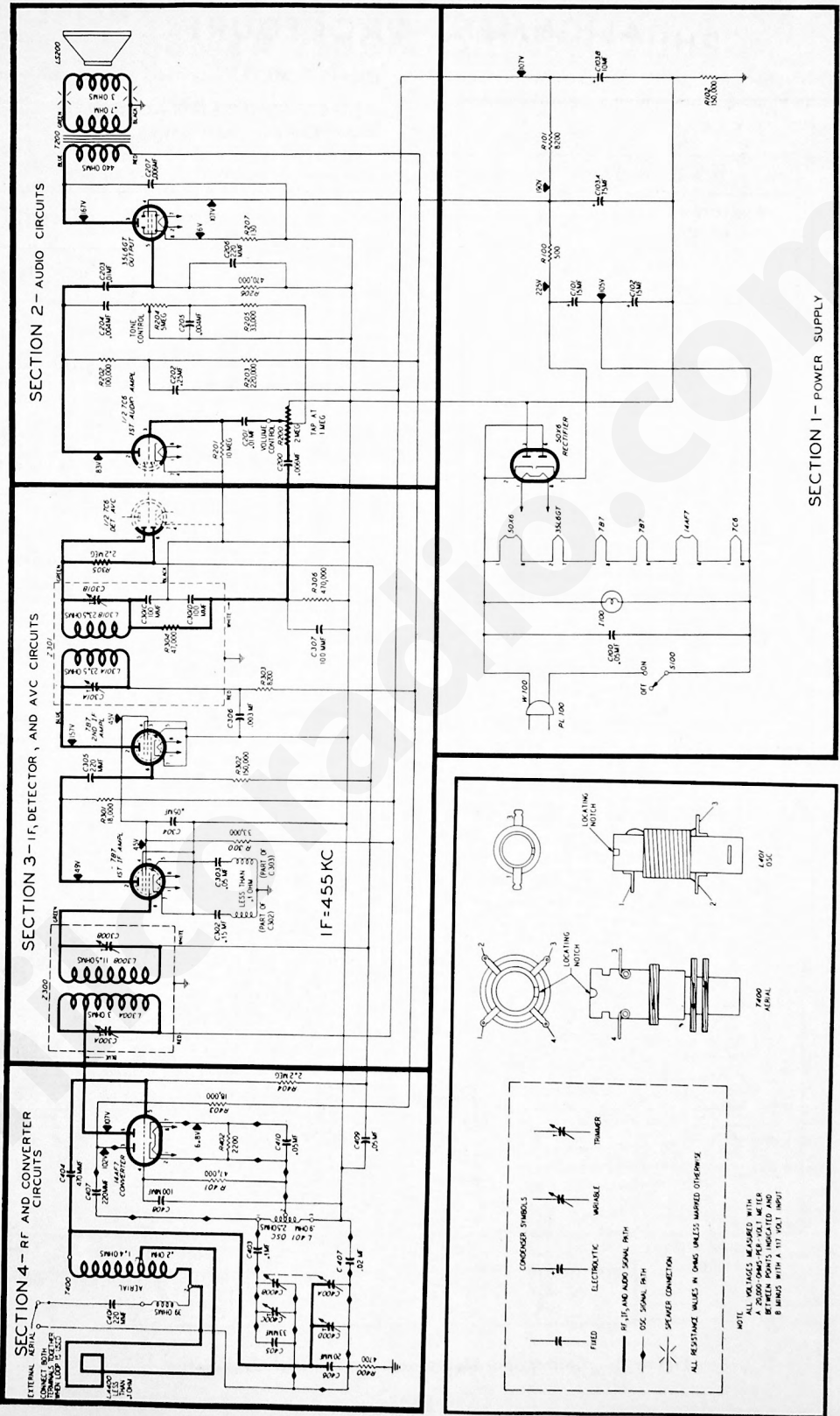


Figure 3. Philco Radio Model 48-485, Sectionalized Schematic Diagram.

ALIGNMENT PROCEDURE

MODEL 48-485

DIAL—Calibration and pointer-index measurements are shown in figure 2. With tuning gang fully meshed, set pointer to index mark.

OUTPUT METER—Connect to voice-coil terminals.

SIGNAL GENERATOR—Connect as indicated in chart. Use modulated output.

STEP	SIGNAL GENERATOR		RADIO		
	CONNECTIONS TO RADIO	DIAL SETTING	DIAL SETTING	SPECIAL INSTRUCTIONS	ADJUST
1				Turn trimmer fully tight.	C300B—1st i-f sec.
2	Through .1-mf. condenser to mixer grid (pin 5 of 14AF7).	455 kc.	Tuning gang fully meshed.	Adjust trimmers, in order given, for maximum output.	C301B—2nd i-f sec. C301A—2nd i-f pri. C300B—1st i-f sec. C300A—1st i-f pri.
3	Radiating loop (see note below).	1600 kc.	1600 kc.	Adjust trimmer for maximum output.	C400C—osc.
4	Same as step 3.	1500 kc.	1500 kc.	Adjust trimmer for maximum output.	C400D—aerial.

RADIATING-LOOP NOTE: Make up a 6–8 turn, 6-inch-diameter loop, using insulated wire; connect to signal-generator leads and place near radio loop aerial. Make certain that radio loop aerial is connected to radio.

RADIO CONTROLS—Set volume control to maximum, and tone control fully counterclockwise.

OUTPUT LEVEL—During alignment, adjust signal-generator output to maintain output-meter indication below 1.25 volts.

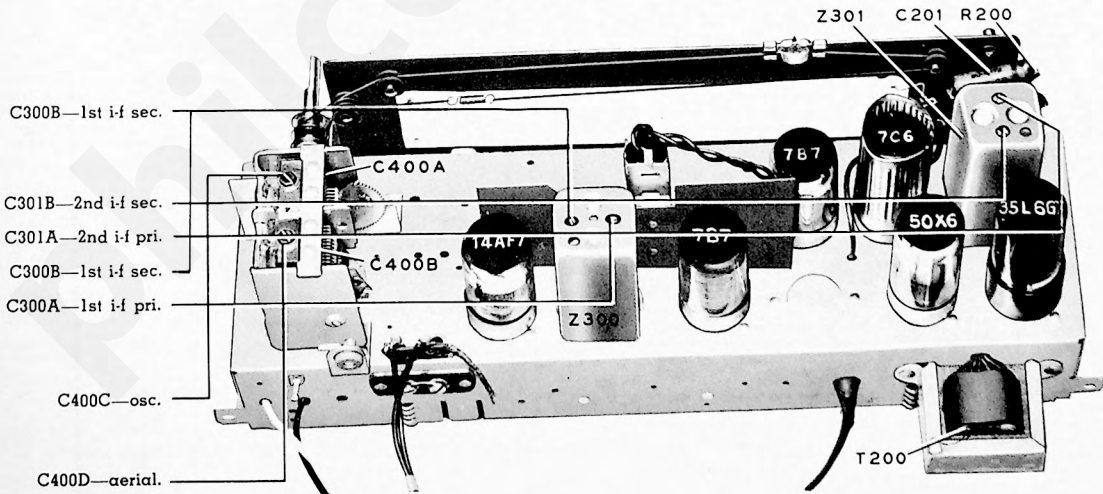


Figure 4. Top View, Showing Trimmer Locations

SYMBOLIZATION

The components in the radio circuit are symbolized according to the types of parts and the sections of the radio in which the parts are located. The prefix letter of the symbol designates the type of part, as follows:

- | | | |
|-----------------|-----------------|-----------------------|
| C—condenser | LA—loop aerial | S—switch |
| I—pilot lamp | LS—loud-speaker | T—transformer |
| L—choke or coil | R—resistor | Z—electrical assembly |

The number of the symbol designates the section in which the part is located, as follows:

- 100-series components are in Section 1, the power supply.
- 200-series components are in Section 2, the audio circuits.
- 300-series components are in Section 3, the i-f, detector, and a-v-c circuits.
- 400-series components are in Section 4, the r-f and converter circuits.

A suffix letter identifies the part as a component of the assembly which bears an identical number without a suffix letter, and with perhaps a different prefix letter.

REPLACEMENT PARTS LIST

NOTE: Part numbers marked with an asterisk (*) are general replacement items. These numbers may not be identical with those on factory assemblies; also, the electrical values of some replacement items may differ from the values indicated in the schematic diagram and parts list. The values substituted in any case are so chosen that the operation of the radio will be either unchanged or improved. When ordering replacements, use only the "Service Part No."

SECTION 1 POWER SUPPLY			SECTION 3 (Continued) I-F, DETECTOR, AND A-V-C CIRCUITS		
Reference Symbol	Description	Service Part No.	Reference Symbol	Description	Service Part No.
C100	Condenser, line filter, .05 mf.	61-0122*	L301B	Transformer secondary, 2nd i-f	Part of Z301
C101	Condenser, filter, 15 mf., 200v	30-2575-11	R300	Resistor, screen dropping, 33,000 ohms	66-3333340*
C102	Condenser, filter, 15 mf., 200v	30-2575-11	R301	Resistor, plate load, 18,000 ohms	66-3183340*
C103	Condenser, electrolytic, 2-section	30-2575-17	R302	Resistor, grid return, 150,000 ohms	66-4153340*
C103A	Condenser, filter, 75 mf., 250v	Part of C103	R303	Resistor, plate decoupling, 8200 ohms	66-2823340*
C103B	Condenser, filter, 10 mf., 250v	Part of C103	R304	Resistor, i-f filter, 47,000 ohms	Part of Z301
I100	Pilot lamp		R305	Resistor, a-v-c filter, 2.2 megohms	66-5223340*
R100	Resistor, filter, 500 ohms	33-3435-3	R306	Resistor, diode load, 470,000 ohms	66-4473340*
R101	Resistor, filter, 8200 ohms	66-2824340	Z300	Transformer, 1st i-f	32-4151-1
R102	Resistor, leakage, 150,000 ohms	66-4153340*	Z301	Transformer, 2nd i-f	32-3948-9
S100	Switch, on-off	42-1837			
W100	Power cord				
PL100	A-c plug	Part of W100			
SECTION 2 AUDIO CIRCUITS			SECTION 4 R-F AND CONVERTER CIRCUITS		
C200	Condenser, d-c blocking, .006 mf.		C400	Condenser, tuning gang	31-2715-1
C201	Condenser, d-c blocking, .01 mf.	61-0120*	C400A	Condenser, oscillator tuning	Part of C400
C202	Condenser, plate decoupling, .25 mf.	61-0125*	C400B	Condenser, aerial tuning	Part of C400
C203	Condenser, d-c blocking, .01 mf.	61-0120*	C400C	Condenser, oscillator trimmer	Part of C400
C204	Condenser, tone control, .004 mf.		C400D	Condenser, aerial trimmer	Part of C400
C205	Condenser, tone compensation, .004 mf.		C401	Condenser, aerial isolating, 220 mmf.	60-10205307*
C206	Condenser, r-f by-pass, 220 mmf.	60-10205307*	C402	Condenser, r-f by-pass, .02 mf.	61-0108*
C207	Condenser, tone compensation, .006 mf.		C403	Condenser, isolating, .1 mf.	
LS200	Speaker, 8" p-m	36-1626-1	C404	Condenser, d-c blocking, 470 mmf.	60-10515307*
R200	Volume control, 2 megohms (center-tapped)	33-5535-15	C405	Condenser, shunt, 33 mmf.	60-00305307*
R201	Resistor, grid return, 10 megohms	66-6103340*	C406	Condenser, shunt, 20 mmf.	60-00205307*
R202	Resistor, plate load, 100,000 ohms	66-4103340*	C407	Condenser, d-c blocking, 220 mmf.	60-10205307*
R203	Resistor, plate dropping, 220,000 ohms	66-4223340*	C408	Condenser, osc. grid, 100 mmf.	60-10105407*
R204	Tone control, 5 megohms	33-5539-33	C409	Condenser, a-v-c filter, .05 mf.	61-0122*
R205	Resistor, tone compensation, 33,000 ohms	66-3333340*	C410	Condenser, cathode by-pass, .05 mf.	61-0122*
R206	Resistor, grid return, 470,000 ohms	66-4473340*	L401	Coil, oscillator	32-4019-6
R207	Resistor, cathode bias, 130 ohms	66-1123340*	LA400	Loop aerial	76-3583
T200	Transformer, output	32-8242-3	R400	Resistor, aerial discharge, 4700 ohms	66-2473340*
			R401	Resistor, grid return, 47,000 ohms	66-3473340*
			R402	Resistor, cathode bias, 2200 ohms	66-2223340*
			R403	Resistor, plate feed, 18,000 ohms	66-3183340*
			R404	Resistor, grid return, 2.2 megohms	66-5223340*
			T400	Transformer, aerial	32-4023-1
SECTION 3 I-F, DETECTOR, AND A-V-C CIRCUITS			MISCELLANEOUS		
C300A	Condenser, trimmer	Part of Z300	Description	Service Part No.	
C300B	Condenser, trimmer	Part of Z300	Bracket and clip assembly, pilot lamp	76-3177	
C301A	Condenser, trimmer	Part of Z301	Cabinet (less scale)	10701	
C301B	Condenser, trimmer	Part of Z301	Baffle and cloth	40-6981	
C301C	Condenser, a-v-c filter, 100 mmf.	Part of Z301	Baffle, wood	219102	
C301D	Condenser, a-v-c filter, 100 mmf.	Part of Z301	Bezel	56-5287	
C302	Condenser-and-choke assembly, i-f filter, .15 mf.	38-9851-8	Dial scale	27-5994	
C303	Condenser-and-choke assembly, i-f filter, .05 mf.	38-9851-4	Dome	45-6190	
C304	Condenser, screen by-pass, .05 mf.	61-0122*	Scale strap	56-4756	
C305	Condenser, d-c blocking, 200 mmf.	60-10205307*	Dial-backplate assembly	76-3713	
C306	Condenser, plate by-pass, .003 mf.		Cord, drive (25-ft. spool)	45-8750*	
C307	Condenser, r-f by-pass, 100 mmf.	60-10105407*	Pointer	56-3583-3FCP	
L300A	Transformer primary, 1st i-f	Part of Z300	Spring	28-8953	
L300B	Transformer secondary, 1st i-f	Part of Z300	Knob	54-4486	
L301A	Transformer primary, 2nd i-f	Part of Z301	Pilot-lamp socket assembly	27-6233	
			Socket, Loktal	27-6138*	
			Socket, octal	27-6174	

REVISIONS AND ADDITIONS TO 48-485 SERVICE MANUAL

Reference Symbol	Description	Service Part No.
Parts List Additions		
	Back	54-7640
Parts List Corrections		
I100	Pilot lamp	34-2605
W100	Power cord	L2183*
C200	Condenser, d-c blocking, .006 mf.	45-3500-7
C204	Condenser, tone control, .004 mf.	61-0179*
C205	Condenser, tone compensation, .004 mf.	61-0179*
C207	Condenser, tone compensation, .006 mf.	45-3500-7
C306	Condenser, plate by-pass, .003 mf.	61-0109*
C403	Condenser, isolating, .1 mf.	61-0113*

PRODUCTION CHANGES

Run 2

The following additional parts were used, to adapt this model for use with the M-15 accessory record player (see sketch below). The parts were mounted on the back of the chassis.

J200	Socket, accessory	27-6126
S200	Switch, accessory	42-1860

TP0-377

